

Course Information: Marine Science (Geology 105) – Cornell College

Professors Ben Greenstein or Chris Schneider, Consulting Librarian Mary Iber, Educational Technologist Lane Dunlop, Writing Studio Director Jen Rouse.

Type: Field experience
Oral presentation
Paper
Web page

Level: 100

This class explores the global marine environment through current major theories of physical oceanography, marine ecology and anthropogenic effects on the oceans and its organisms. It includes one field trip to the Shedd Aquarium in Chicago. It is especially popular among students who are not majoring in science and fulfills the requirement for a non-lab science course.

Block Plan Context:

	S	M	T	W	R	F	S
1		■	■	■	■	■	
2		■	■	■	■	■	
3		■	■	■	■	■	
4		■	■	■			

Important Features of the Assignment:

- The **Block Plan** accommodates a full day **field trip** to Chicago.
- The **staged** due dates of the assignment assist in time management and allow for the completion of two quite diverse assignments. These stages also provide an appropriate venue for **discouraging plagiarism**.
- The field trip, paper, and web page assignments **generate interpretation and insight** as students must review current research and relevant arguments as well as provide their own perspectives and alternatives in response to issues facing their chosen topic.
- Self-selection of topic encourages personal interest in the assignment. Students from different majors have the opportunity to engage in **cross-disciplinary research** between geology and their particular disciplines.
- The assignment encourages the integration of **expertise** by the professor, librarian, educational technologist, and writing studio director.
- The seminar style presentation of the web page and oral presentation represent the **professional and discipline-specific outcomes** of the assignment.

Description of Assignments:

The descriptions of the different assignments as detailed to the students are listed below.

Field Trip Assignment:

As you meander around the Shedd Aquarium enjoying the exhibits and shows, consider the content, thoroughness, and impact of what you see. I want you to critically evaluate the Shedd's exhibits, shows, and mission, citing both positive and negative aspects (and if negative, what could be fixed?). You are wide open on this assignment, but here are some example questions to consider - I will be extremely impressed if you cover a topic or topics that are not on the list below (you do not have to answer all three topics below; you may chose any one or more of the following topics, modify any one or more of the following topics, or come up with your own topic):

1. Public museums and aquariums are meant to educate the public; does the Shedd do an adequate job, and what overall message are they getting across to the public about marine ecology or marine organisms?
2. All public institutions are currently going through major funding crises; in light of your experience at the Shedd, do you think the Shedd is adequately using its limited financial resources to get their message across to the public? What are they doing that is positive, and what areas need to be expanded?
3. How does the Shedd deal with human impacts on marine ecology and organisms? Think of this from the perspective of an educational service that the Shedd provides as well as from the perspective of the Shedd Aquarium as a role model for how the public should be considering and treating marine resources.

For the assignment, write A MAXIMUM of one page on your chosen topic. I will be looking for how deeply you've thought about the topic and how efficiently you get your point across within the space limitations. If it helps, imagine you are writing this for *Natural History*, *Discover*, or *American Scientist*, or are writing a short column for a newspaper.

Project (includes term paper, web page and an oral presentation)

The goals of the project are 1) to learn research strategies and web page design; 2) to specialize in a topic of interest relating to marine science; and 3) to present your research in written and oral format.

Choose a topic that interests you; this may include a specific group of organisms, policies and international environmental strategies for dealing with marine resources, a specific marine ecosystem, anthropogenic effects of the marine environment, paleontological, archaeological, or geological history of the above, the ocean, society, and philosophy, etc. Pick something either of interest to you or that relates to your major - for instance, if you are an English major, how are oceans and the life therein perceived throughout Medieval and Renaissance literature, and does that have any bearing on modern environmental perceptions? Or, if you really, really love sea turtles and need to narrow down your topic, perhaps sea turtle roles in food webs, or the life history and ecology of a particular species and human impacts on that species.

What I expect is a review of current research, including any relevant arguments, plus your own perspective of the problems, biases, directions, and goals of current research, or your thoughtful insights about what could be done to counter ecological and environmental crises surrounding your topic.

References

You must use at least six references from popular science literature, books, textbooks, primary literature, or the World Wide Web. If web pages are used, they must be of significant scientific value, such as Scripps, World Wildlife Foundation, or Smithsonian Museum Web pages.

Personal home pages, which may include photos and speculative ideas of coral reefs and dinosaur extinction, are not considered to be of “serious scientific value.”

Paper

An 8-10 page paper, double-spaced, 12 point font. This page limit does not include illustrations, abstract, and references. You will also forward to me an additional electronic copy of your abstract (limited to 250 words) for our presentation seminar.

Students are encouraged to consult with the Writing Studio.

The paper will be in review format. That is, it will essentially provide an overview and review of the subject plus critically evaluate the current state of research of your chosen project (or at least as much as you can cover given the short time frame of the block!).

Web Page

In addition to the paper, a home page pertinent to your topic must be generated. You may use the marine science home page as a template, or design your own. Web page design and planning sessions will be held with the educational technologist.

Presentations

You will give a 10 minute presentation of your research using your web page as graphics for your presentation. Presentations will be given in seminar format, with copies of abstracts handed out ahead of time. Questions and discussion from the class for each presentation is highly encouraged.

Grading

Your grade for the project will be based on: 1) your written paper; 2) your web page; 3) your oral presentation; and 4) the short evaluation you give for each of your classmates' presentations.

Timeline:

Wk	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Weekend</i>
1	Assignments described to students.		Topic due (am). Instruction session with librarian (pm).			
2	Narrowed topic and two references due in full reference format.	Outline of web page design due—topic and pages (am). Web page design class w/ educational technologist (pm).				
3	Complete reference list due in full format.	Field trip to Shedd Aquarium.		Field trip assignment due.	Paper due by 4 pm. Electronic version of abstract due. Graphics for web pages due by 3 pm.	
4		Final version of web page due. Student oral presentations in class.	Student oral presentations in class.			